

SECTION 02100
SITE PREPARATION

PART 1 - GENERAL

0.1 DESCRIPTION OF WORK

A. Work Included: This Section specifies the following items.

1. Clearing, grubbing, and disposing of vegetation, including bushes, brush, trees, stumps, fallen timber, logs, roots, rubbish, refuse, trash, and debris within the indicated limits.
2. Protection from injury or defacement of vegetation and objects indicated or designated by the Engineer to be preserved.
3. Removal, salvage, or other disposition of basement walls, slabs and footings; existing pavement, curbs and gutters, sidewalks, headwalls, walls, and steps; utility service facilities; guardrail and posts, highway and street signs and fences; and other miscellaneous structures and site improvements which interfere with construction, as indicated, or as required by the Engineer.
4. Placing of siltation fence and hay bales for erosion and sedimentary control.
5. Preparing site access roadways, storage areas, and security fencing.

B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. Section 02221 - DEMOLITION.
2. Section 02300 - EARTHWORK: removal if items completely buried below grade.
3. Section 02650 - EXISTING SITE UTILITIES: maintenance, support, protection, relocation, reconstruction, adjusting-to-grade, restoration and abandonment of existing utilities.

0.2 SUBMITTALS

A. Submit copies of requests for and certificates of severance of utility services to the Engineer prior to start of site preparation work.

PART 2 - PRODUCTS

0.1 SILT FENCE

- A.** Steel posts shall be a minimum of five feet in length, two and one-half inch by two and one-half inch by one-quarter inch angle post with self-fastening tabs and a five inch by four inch (nominal) steel anchor plate bottom.
- B.** Welded wire fabric shall be four inch by four-inch mesh of twelve gauge by twelve gauge steel wire.
- C.** Silt fence shall be a woven, polypropylene, ultraviolet resistant material such as Beltech 940 Silt Fence, Mirafi 100X Silt Fence, Perma 2130 Silt Fence or equal.
- D.** Tie wires for securing silt fence fabric to wire mesh shall be light gauge metal clips (hog rings), or one-thirty second inch diameter soft aluminum wire.
- E.** Prefabricated commercial silt fence may be substituted for built-in-field fence such as Mirafi Envirofence, Celanese Corp Envirofence, AMXCO Silt Stop or equal.

0.2 HAY BALE STAKES

- A.** Wood stakes for hay bales shall be two inch square by thirty-two inches long, hardwood stakes.

PART 3 - EXECUTION

0.1 PROTECTION

- A.** Protect indicated or designated trees with fencing to the approximate diameter of foliage to prevent damage to the trunk, foliage and root system by construction equipment or procedures.
- B.** Protect other plants, monuments, existing improvements, adjacent property, and facilities from damage.
- C.** Maintain protected vegetation in a healthy growing condition during construction.

0.2 CLEARING AND GRUBBING

- A.** Clear materials specified herein to the limits shown and remove from the site. Remove stumps and roots completely in excavation areas and under

embankments where the original ground level is within 3.5 feet of the sub-grade or slope of embankments. In embankment areas where the original ground level is more than 3.5 feet below the sub-grade or slope of embankment, cut off trees, stumps, and brush to within six inches of the ground.

- B.** Do not start earthwork operations in areas where clearing and grubbing is not complete, except that stumps and large roots may be removed concurrently with excavation.
- C.** Where the work includes the removal of elm trees or the branches or stumps of elm trees, dispose of such material immediately after cutting or removal, by covering with earth to a depth of at least six inches in areas off the jobsite where such disposal has been arranged.
- D.** Where the work under the Contract includes the provision of wood chip mulch, acceptable material from clearing and grubbing activities may be used to produce such mulch. Material obtained from elm trees will not be acceptable for such use.

0.3 TREE BRANCHES

- A.** Remove tree branches overhanging trackways, roadways, and other designated areas of the site to within 20 feet of the finish grade. Cut off branches neatly close to the tree boles. Remove other branches as necessary to present a balanced appearance. Treat scars resulting from tree branch removal with a heavy coat of an approved asphaltic tree paint.

0.4 REMOVAL

- A.** Remove entirely existing miscellaneous structures and site improvements that interfere with construction, as indicated, or as designated by the Engineer. Remove walls and masonry construction to a minimum depth of two feet below existing ground level in areas where such items do not interfere with construction.
- B.** Abandoned Rail and Track Materials. Take possession of, remove, and dispose of off site, materials between boundaries located two feet outside of the rails and including the space between double tracks.
- C.** Slabs may be broken and left in place where the Engineer determines it is not detrimental to the structural integrity of the fill or structure to be placed above.
- D.** All removal must be done in accordance with applicable state and federal laws.

0.5 SALVAGE

- A.** Salvage indicated material or material determined by the Engineer to be suitable for reuse, including: grates, frames, other metal castings and miscellaneous parts of inlets and manholes; hydrants, fire alarm posts and boxes; metal light poles; sound pipe and valves; metal fencing; guard rail; and highway and street signs and posts.
- B.** Protect metallic coatings on salvaged items. Remove adhering concrete from salvaged items.
- C.** Repair, or replace with new material, salvaged material damaged or destroyed due to the Contractor's negligence.

0.6 BACKFILL

- A.** Backfill and compact trenches and excavations resulting from work under this Section in accordance with Section 02300 - EARTHWORK.

0.7 SILT FENCE AND HAY BALE INSTALLATION

- A.** Silt fence and hay bales shall be positioned as indicated on the Drawings and as necessary to prevent off site movement of sediment produced by construction activities as directed by the Engineer and as shown on the Drawings.
- B.** Dig trench approximately six inches wide and six inches deep along proposed fence lines.
- C.** Drive metal-stakes, eight feet on center (maximum) at back edge of trenches. Stakes shall be driven two feet (minimum) into ground.
- D.** Hang four by four woven wire mesh on posts, setting bottom of wire in bottom of trench. Secure wire to posts with self-fastening tabs.
- E.** Hang filter fabric on wire carrying to bottom of trench with about four (4) inches of fabric laid across bottom of trench. Stretch fabric fairly taut along fence length and secure with tie wires eighteen inches on center both ways.
- F.** Backfill trench with excavated material and tamp.
- G.** Install a single row of hay bales, as indicated on the Drawings, against the siltation fence and stake with two hardwood stakes per bale. Also place hay bales around existing down-stream catch basins in the vicinity of the project.
- H.** Furnish, place and maintain silt fence and hay bales as specified and as shown on the Drawings. Remove upon completion of all work.

0.8 MAINTENANCE AND INSPECTIONS

- A.** Inspections: Contractor shall make a visual inspection of all sedimentation control devices once per week and promptly after every rainstorm. If such inspection reveals that additional measures are needed to prevent movement of sediment to off site areas, the Contractor shall promptly install additional devices as needed. Sediment controls in need of maintenance shall be repaired promptly. Maintain stockpiles on site of siltation fence, hay bales and repair kits.
- B.** Maintenance:
1. Silt Fences and Hay Bales
 - a. Remove accumulated sediment once it builds up to one-half inch of height of the silt fence.
 - b. Replace damaged fabric, or patch with a two foot minimum overlap
 - c. Make other repairs as necessary to ensure that the fence is filtering all runoff directed to the fence
 - d. Replace hay bales when saturated with silt or otherwise damaged.

PART 4 - MEASUREMENT AND PAYMENT

0.1 MEASUREMENT

- A.** Site clearing and site preparation shall be paid for by the acre, including all incidentals.

0.2 PAYMENT

- A.** Clearing of site shall include the removal and disposition of street signs, parking meter poles, existing trees, shrubs and miscellaneous vegetation. Clearing of site shall include silt fences and hay bales. Excavating and backfilling incidental to work under this Section will not be separately paid for, and all costs in connection therewith shall be included in the prices for the items of work to which the excavating and backfilling is incidental.

0.3 PAYMENT ITEMS

ITEM NO.	DESCRIPTION	UNIT
0210.100	CLEARING OF SITE	LS

END OF SECTION

NOTES TO THE DESIGNER

- A.** Any request to modify or waive the specification requirements listed below must be approved in writing by the MBTA's Director of Design:
1. For large demolition projects, the consultant should choose an appropriate unit pay item (i.e. per acre) and minimize the use of lump sum items.